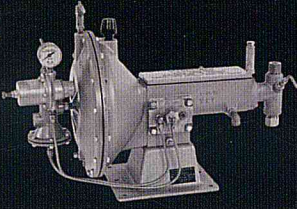




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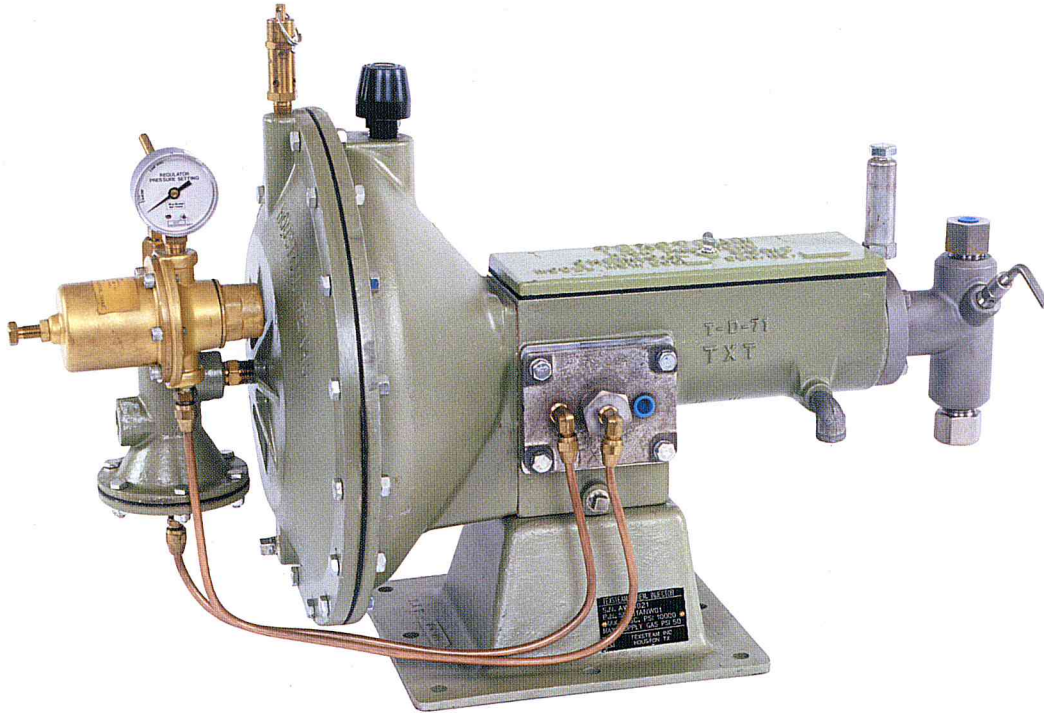
Texsteam 5000 Series Pneumatic Chemical Injection Pump

Questions? Call us at 780-897-5869 or email info@burkecalibration.com



series 5000

AIR OR GAS DRIVEN INJECTORS



DESCRIPTION

Texsteam Series 5000 chemical injectors are positive displacement units powered by integral gas/air motor. These pumps fill the requirements of a broad range of applications because of their ability to achieve high discharge pressures (up to 12,000 psi) and wide volume ranges. A horizontal plunger and vertical check valve arrangement assure high operating efficiency. The standard pump head has a Ductile Iron body and stainless steel trim. Stainless steel heads are available for high corrosive applications. A built-in priming valve facilitates pump head priming, enables the operator to easily check pump operation, and offers a sample-catching device. The pump frame and body castings are high-strength aluminum. The operating mechanism strokes in oil and is gasket sealed to protect against dust and other atmospheric influences. A standard equipment safety valve offers protection against accidental overpressure of the main diaphragm. The adjustable packing is equipped with a lantern ring and a grease jack for lubricating the plunger and packing to insure long life.

APPLICATIONS

- Introducing detergents in air-gas drilling operations
- Blending foaming agents in water laden gas wells
- High pressure addition of fluid compounds in blending and chemical processing.
- Introduction of de-salting agents, de-emulsifiers, inhibitors and flocculants in crude oil and gas steams
- High and low pressure lubrication systems
- Methanol and alcohol injection in gas systems to prevent freezing
- General high pressure injection applications
- Fluid blending of extreme pressures within varied, controlled processes
- Hydrostatic testing
- Glycol circulation
- Water treatment

PERFORMANCE DATA

Model #	Plunger Size	Operating Ratio Gas*/Fluid	Maximum Pressure Pressure (PSIG)		Maximum Volume			
			Hard Packing	Soft Packing	Intermittent		Continuous	
					GPH	GPD	GPH	GPD
5002	1/4"	1000/1	12,000	3000	0.83	20	0.67	16
5003	3/8"	497/1	12,000	3000	2.33	56	1.79	43
5005	1/2"	264/1	12,000	3000	4.38	105	3.54	85
5004	3/4"	115/1	5,000	3000	7.42	190	6.67	160
5006	1"	66/1	N/A	3000	16.66	400	13.33	320
5007	1-1/4"	42/1	N/A	2000	26.04	625	20.83	500

Stroke Length - Long: 1 1/4" ; Short: 1/2"

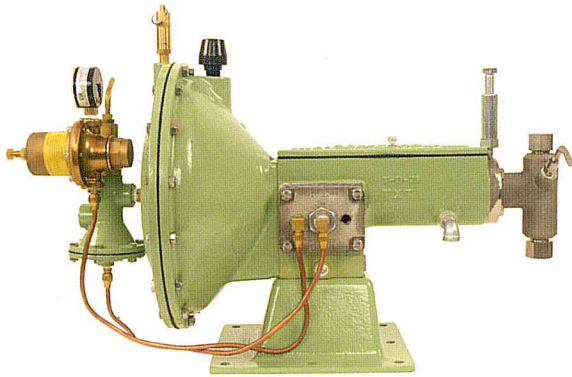
*Maximum Power Gas Pressure: 50 PSI
Specify a TB-0040 & TA-0129 inlet regulator and gauge when the inlet air/gas pressure is over 50 psig.

MODELS AVAILABLE

All models available trimmed for sour gas as an option

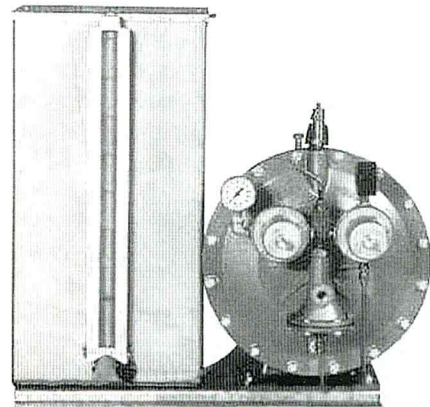
Basic Power Unit

is available with six different plungers.
Shipping Weight: 63 lbs.



Pump with 10 Gallon Stainless Steel Reservoir

Shipping Weight: 96 lbs.



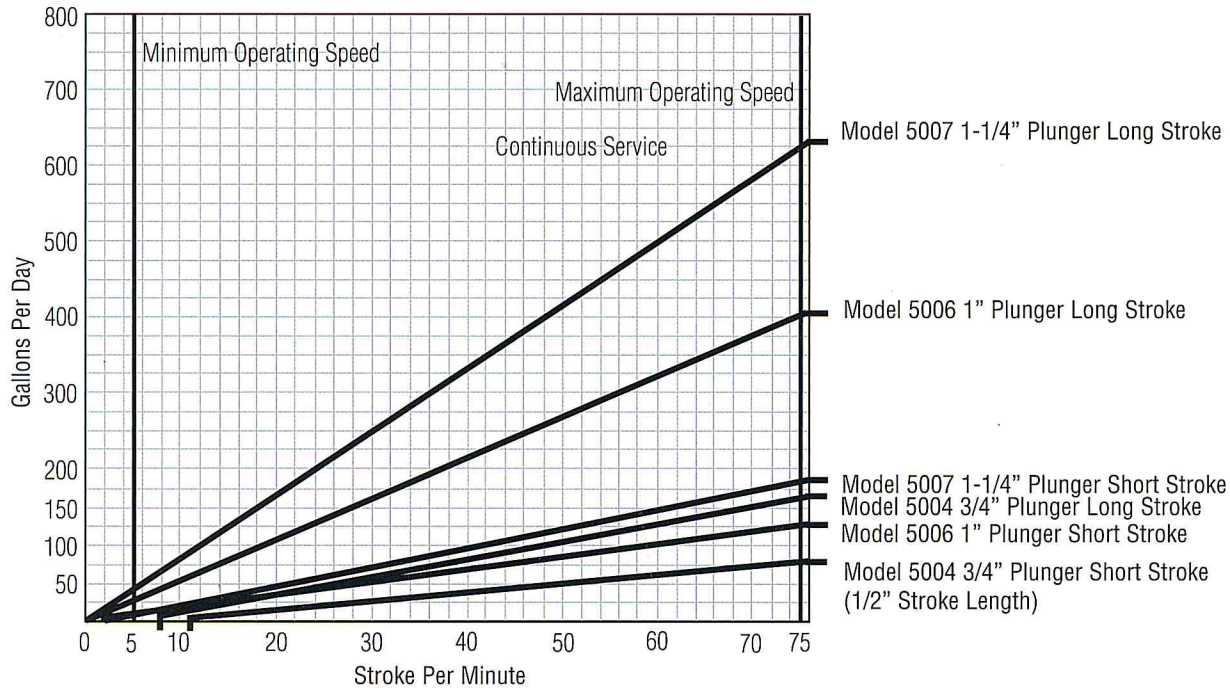
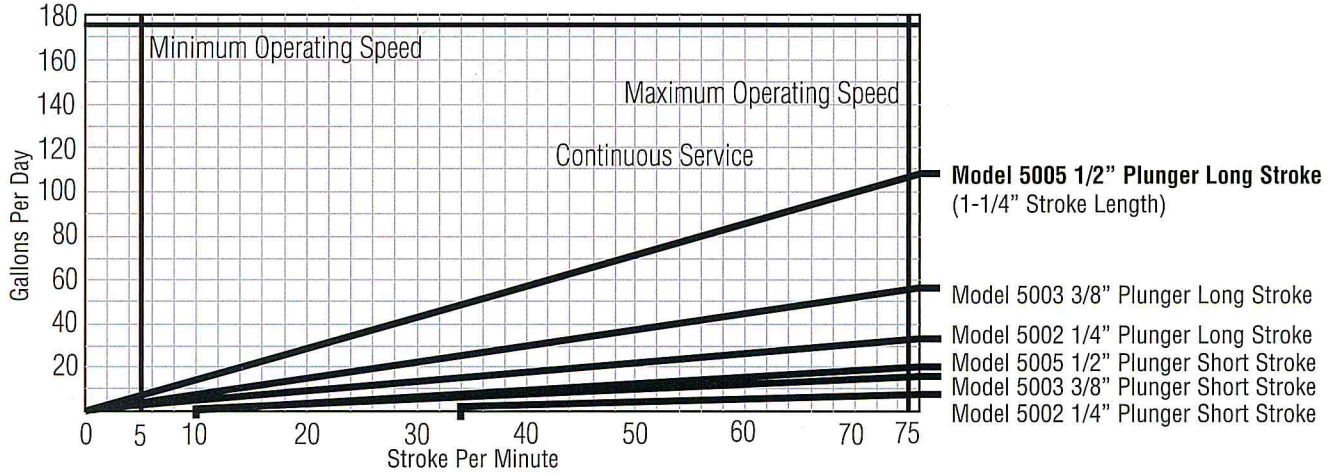
To add a 5 gallon tank, gauge, and base to the Basic Power Unit, order the following Parts:

1-TA-0664	5 gal. tank	1-TA-0141	Base Screw
1-TB-0871	Gauge	4-TA-0143	Bolt
1-TA-3189	Suction Tubing	5-TA-0144	Nut
1-TB-0204	Base	10-TA-0300	Washer
1-TA-3116	ELL	5-TA-0425	Lockwasher

Drum Gauges Available:

TB-1128 Carbon Steel
TB-1129 304SS

VOLUME & PUMP



GAS CONSUMPTION CHART (Standard Cubic Feet of Gas Required to Pump One Gallon)

For inlet regulator sizing, double the requirement indicated

Injection Press in PSI	50	100	150	200	250	300	400	500	600	700	800	900	1000	1500	2000	3000	3500	4000	5000	6000	7000	8000	9000	10000
1/4" Piston Long Stroke 5002	280	281.2	282.4	283.6	284.8	286	289	292	294.6	297.2	300	303	306	318	330	356	368	380	404	428	452	476	500	522
1/4" Piston Short Stroke	700	703	706	707	709	712	720	724	731	737	741	748	756	779	802	854	872	897	937	984	1017	1057	1090	1122
3/8" Piston Long Stroke 5003	140	140.6	141.2	141.8	142.4	143	144.5	146	147.3	148.8	150	151.5	153	159	165	178	184	190	202	214	226	238	250	262
3/8" Piston Short Stroke	355	355.6	356.2	356.8	357.4	358	359.5	361	362.3	363.6	365	366.5	368	374	380	393	399	405	417	429	441	453	465	477
1/2" Piston Long Stroke 5005	80.6	81.2	81.8	82.4	83	83.6	84.8	86	87.2	88.4	89.6	90.8	92	98	104	116	122	128	140	152	164	176	188	200
1/2" Piston Short Stroke	200.6	201.1	201.8	202.4	203	203.6	204.8	206	207	208.4	209.6	210.8	212	218	224	236	242	248	260	272	284	296	308	320
3/4" Piston Long Stroke 5004	36	37	38	39	40	41	43	45	47.3	49.4	51.3	52.8	55.6	66	76.2	97	107	114	121					
3/4" Piston Short Stroke	89	91	92	94	95	96	99	101	105	109	111	113	117	132	145	172	183	190	191					
1" Piston Long Stroke 5006	20.6	21.2	21.8	22.4	23	23.6	24.8	26	27.2	28.4	29.6	30.8	32	38	44	56	62							
1" Piston Short Stroke	50.6	51.2	51.8	52.4	53	53.6	54.8	56	57.2	58.4	59.6	60.8	62	68	74	86								
1 1/4" Piston Long Stroke 5007	13.6	14.2	14.8	15.4	16	16.6	17.8	19	20.2	21.4	22.6	23.8	25	31	37	49								
1 1/4" Piston Short Stroke	32.6	33.2	33.8	34.4	35	35.6	36.8	38	39.2	40.4	41.6	42.8	44	50	56									



INSTALLATION AND OPERATING INSTRUCTIONS

1. After removing pump from carton, inspect for possible damage in transit from factory. If the pump has been damaged, file claim with the carrier.
2. **Bolt holes** are provided for mounting. See drawing for dimensions on page 5.
3. **Connect the suction line to pump head.**
 - a. When a reservoir is furnished with the pump, the suction line is already connected. Fill the reservoir and open (all the way) the TB-871 sight feed shutoff assembly. It is important to have the TB-871 valve open all the way when the pump is in operation because the TB-871 valve seals-off in the open position and prevents air from entering the suction line through the valve. A dual strainer is furnished as part of this unit.
 - b. When a power unit model (less tanks) is purchased, a strainer should be piped into the suction line to prevent sand, rust or other particles, which score the plunger or possibly foul the check valves, from entering the pump head. Texsteam manufactures the TB-21 sight feed assembly which can be used with the 3/8" and 1/2" plungers only. A TA-75 street ell and TA-674 nipple is required to pipe the TB-21 sight feed into the bottom bushing of the pump head. The TB-21 should be installed as shown on page 6. The inlet connections on the pump head and the sight feed are 1/4" FPT.
4. **Connect the discharge line.** The top connection on the pump head is the fluid discharge and has a female 1/4" pipe thread connection. A line check should be installed in the discharge line as close to the point of injection as possible. For pumps with 3/8" plunger, Texsteam offers a 1/4" line check either in brass (TA-676) or stainless steel (TA-675) which will withstand working pressures of 3000 and 6000 psi respectively. For other plunger sizes, 1/2", 1" and 1-1/4", Texsteam offers the TB-283 stainless steel line check which withstands pressures up to 6000 psi. When installing these check valves note the arrow on the body which indicates the direction of flow.
5. **Connect the power gas line.**
 - a. First blow power gas line clean to remove any loose rust particles, slag, sand, etc.
 - b. Consider the pressure requirements of the pump. If the gas supply exceeds 50 psi (consider erratic pressure), the supply should be equipped with a regulator to reduce the gas pressure to 50 psi. If the main air or gas supply to the pump is over 50 psig, it must be reduced to 50 pounds. This can be done by installing another TB-40 regulator and TA-129 gauge (available as optional components for field installation). The maximum allowable inlet pressure to a TB-40 regulator for installing in the main gas supply is 1500 psig.
 - c. The TA-131 safety valve is for protection of the TB-10 diaphragm and is set at 50 psi. Pressure on the diaphragm should not in any case exceed 50 psi.
6. **Lubrication (30 wt. non-detergent oil - 3 quarts)**
 - a. Remove the cover plate TB-4 and fill the chamber next to diaphragm with oil. Only on pumps with 1-1/4" plungers are both the chambers filled with oil. The model 5007 requires oil in the packing gland chamber in order to lubricate the plunger.
 - b. Insert stick lubricant into the TA-558 grease jack. Texsteam has available and recommends P/N TA-3179 for most fluids. No lubrication is required if the pump is equipped with teflon packing and chrome-plated plunger. In this case the connection for the grease jack should be plugged with a 1/8" pipe plug.
7. Adjust for desired volume by considering pump speed (see charts) and position of Item 47 pin. Different volumes can be achieved by short and long stroke setting (see charts). The pump is assembled with Item 47 plunger travel adjusting pin inserted in the hole of the plunger nearest the plunger packing gland nut. This is the position of longest stroke. To shorten the stroke, place the pin in the other hole. (See Page 6.)
8. Start the pump by slowly opening the TA-22 inlet valve. Prime the pump head by opening the TA-123 priming valve. After the pump discharges fluid without bubbles, close the priming valve for normal operation. At this point make a visual check of the plunger drip and using a flat blade screwdriver slowly tighten the gland nut to prevent excess drippage and waste of chemicals. Do not over-tighten plunger packing. It may be necessary to readjust the packing the next day. A slight leak during the break-in period is beneficial. Sufficient time should be allowed to let the packing 'seat-in.' **DO NOT ADJUST PACKING UNDER PRESSURE.** If low volumes are being pumped, the pump head the fluid discharge line and all other fittings up to the line check should be thoroughly purged of all air bubbles.

CAUTION:

The TB-40 regulator (Item 2, Pg. 6) mounted on the pump as a standard component **DOES NOT REDUCE THE MAIN AIR OR GAS SUPPLY PRESSURE down to 50 psig, which is the maximum allowable for operating the Series 5000 pump. It is factory-set at 12 psi to prevent over-pressuring the TB-37 master valve (Item 6, page 6).**

If the main air or gas supply to the pump is over 50 psig, it must be reduced to 50 lbs. This can be done by installing another TB-40 regulator and TA-129 gauge (available as optional components for field installation.) The maximum allowable inlet pressure to a TB-40 regulator for installing in the main gas supply is 1500 psig.

MAINTENANCE INSTRUCTIONS FOR INSPECTION OR REPLACEMENT OF POWER EQUIPMENT

Inspection of TB-40 Pressure Regulator

Loosen TA-402 lock nut, hack out TA-217 regulator screw, remove the five TA-223 body screws and lift off TA-3110 bonnet. Lift out and inspect TA-3133 adjusting spring disc and TA-2111 adjusting spring. Unscrew TA-220 lock nut and lift out TA-3135 adjusting spring plate, TA-211 diaphragm, TA-210 body gasket and TA-213 diaphragm nut gasket. To inspect other parts, unscrew TA-209 cap, lift out TA-212 cap gasket. At this point TA-222 seat block pin must be removed with punch. When pin is removed, TA-214 valve seat assembly (reversible) and TA-219 orifice screw can be removed.

Now the TA-208 valve seat block yoke can be lifted out through other side of TC-29 body. Check TA-519 inlet filter screen for obstructions. Reset regulator at 12 psi.

TB-37 Master Valve Assembly

Remove the six TA-163 cap screws, remove TA-1 housing cap and inspect TA-1329 diaphragms. After removing the diaphragms, the TA-197 stem may be removed. To inspect TA-202 valve spring, TA-196 valve disc and TA-201 lower valve seat, unscrew TA-200 upper valve seat.

Inspecting TB-9 Pilot Valve Assembly

Unscrew TA-906 disc retainer, lift out TA-77 valve spring, TA-579 washer and TA-4668 valve disc. Close inspection of the valve disc sealing surface and drive socket slot is necessary. Very close inspection of the drive pin should be made, if ends are worn, the valve disc should be replaced. If TB-1 Body and TA-4668 valve disc are badly scored, replace. Realignment of the valve disc is important. Refer to positioning diagram on page 7.

Replacement of TB-10 Diaphragms, TA-25 Spring and Related Parts

Remove TB-40 regulator, TA-22 valve, and TB-37 master valve. Remove 16 TA-142 bolts. The cover is under tension. Care should be exercised when removing the last TA-142 bolts. Two C-clamps or 5/16" x 2 (slightly longer than TA-142 bolts) would be very helpful for this work.

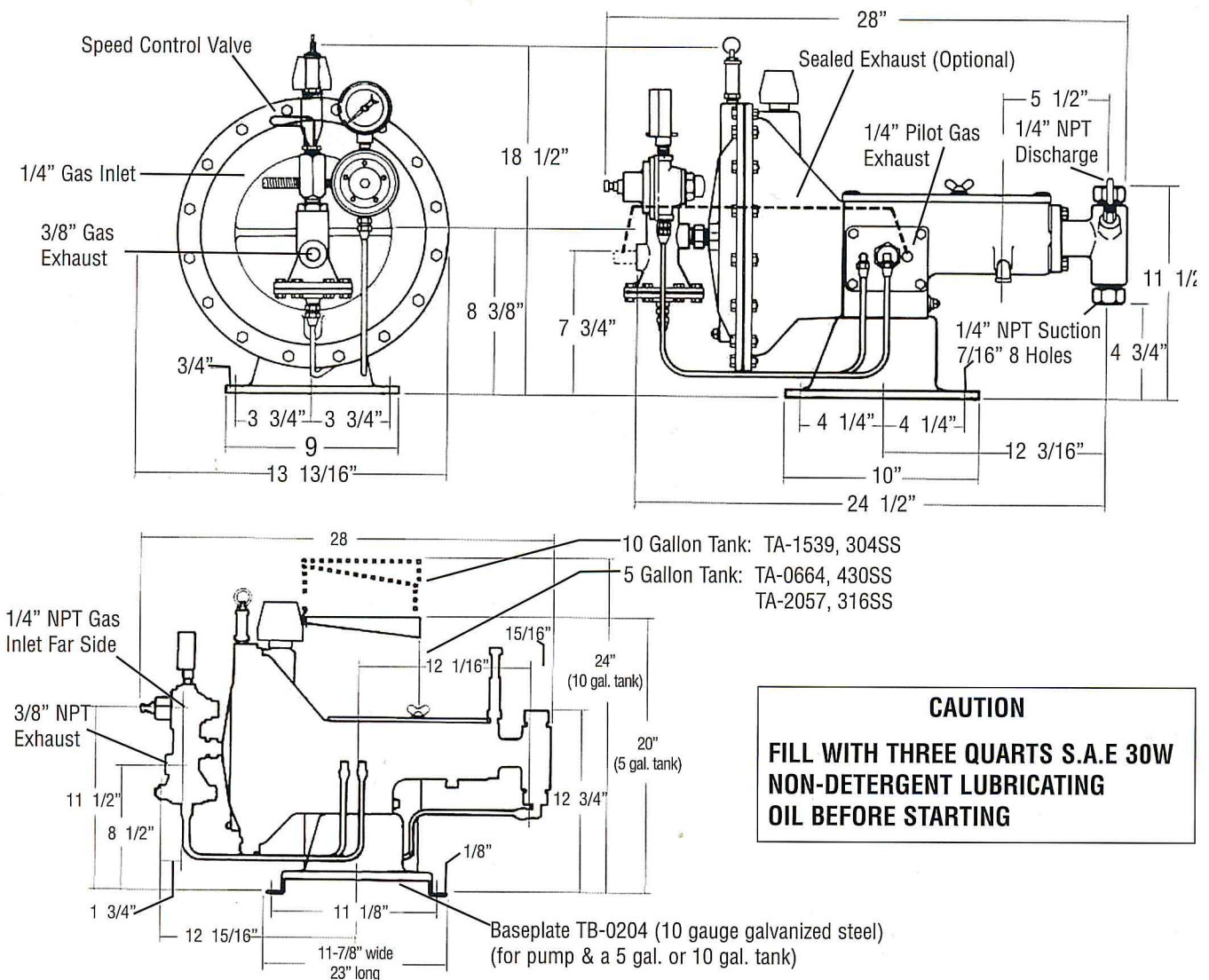
Troubleshooting

1. If pump stops with plunger in extreme discharge position and gas or air is being discharged from the TA-131 safety valve, or a constant discharge of gas or air is discharged when the safety valve lift ring is pulled, the TA-1329 diaphragm in the TB-37 master valve is burst.
2. If pump does not move forward and a constant discharge of gas or air is observed in the lubricating oil chamber then the TB-10 main diaphragms are ruptured.
3. Pump is operating but not pumping fluid.
 - a. Open bleeder valve to break air lock.
 - b. Check if sight feed shutoff assembly TA-101 is screwed in "out" position.
 - c. Check top and bottom halls and seats for leaking.

(REFER TO PARTS LIST ON PAGE 6 AND 7)

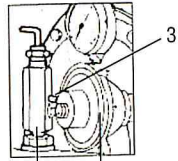
DIMENSIONS

Do Not Use For Construction. Request Certified Dimension Drawing From Factory If Needed.

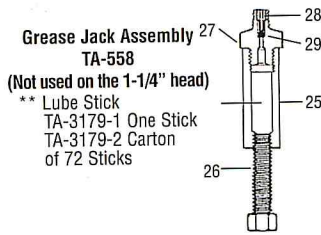


CAUTION
FILL WITH THREE QUARTS S.A.E 30W
NON-DETERGENT LUBRICATING
OIL BEFORE STARTING

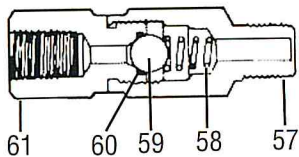
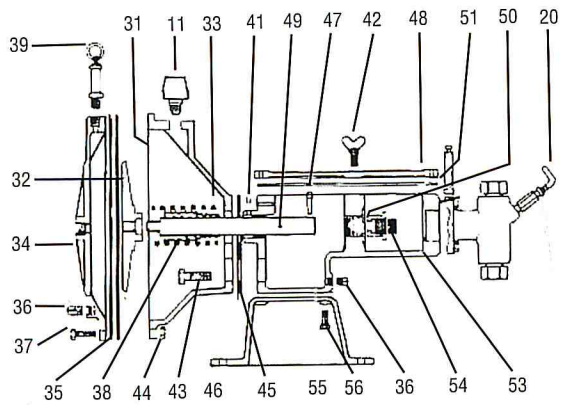
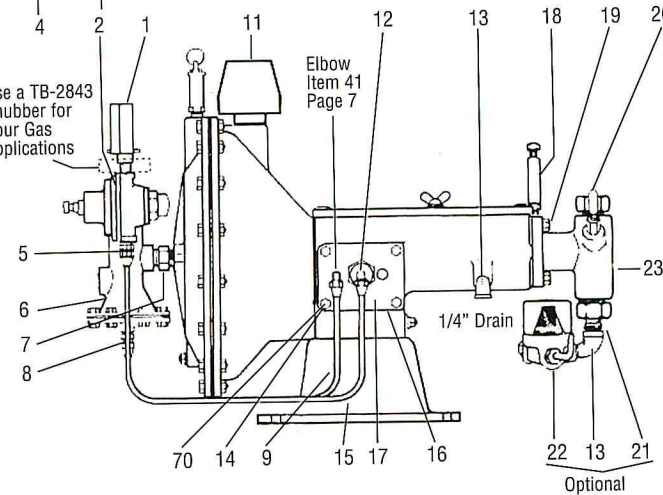
GENERAL ASSEMBLY



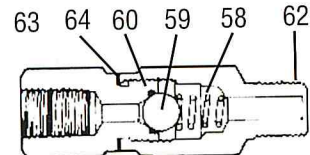
Use a TB-2843 Snubber for Sour Gas Applications



Grease Jack Assembly TA-558
(Not used on the 1-1/4" head)
** Lube Stick
TA-3179-1 One Stick
TA-3179-2 Carton of 72 Sticks

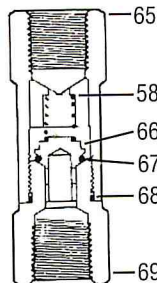


1/4" Brass Line Check (TA-676)
3000 PSIG Maximum Pressure



1/4" Stainless Steel Line Check (303SS) (TA-675)
6000 PSIG Maximum Pressure

1/2" Stainless Steel (303SS) Line Check (TB-283)
6000 PSIG Maximum Pressure



PARTS LIST

Item	Part No.	Name
25	TA-559	Body
26	TA-560	Screw
27	TA-561	Base
28	TA-562	Retainer
29	TA-564	Ball
1	TA-1295	Pressure Gauge 1-12 psi
2	TB-40	Regulator
3	TA-4692	Nipple 316SS
4	TA-22	Inlet Gas Valve Assembly
5	TA-135	Half Union, Steel Cad. P1.
6	TB-37	Master Valve, Aluminum
7	TA-9	Attachment Nipple, Brass
8	TA-137	Half Union, Brass
9	TA-1494	Line assembly from Pilot Valve to Master Valve (Copper)
11	TA-2599	Air Filter
12	TA-132	Elbow-Brass
13	TA-75	Elbow
14	TA-143	Cap Screw
15	TA-1493	Line from Pilot Valve to Reg.
16**	TA-58	Gasket
17	TB-9	Pilot Valve Assembly
18	*	Grease Jack
19	TA-4452	Bolt 316SS
20	TA-123	Priming Valve
21	TA-674	Nipple (optional)
22	TB-21	Strainer Sight Feed Assembly (Optional)
23	See pg. 8	Standard Head Assembly
31	TD-434	Housing, Aluminum
32	TB-2	Disc
33**	TA-25	Spring
34	TC-1	Cover, Aluminum
35**	TB-10	Diaphragm (2 Required Buna-N)
36	TA-138	Drain Plug
37	TA-142	Diaphragm Housing Bolts
38	TA-76	Bushing
39	TA-131	1/4" Safety Valve Set 50#
41	TA-146	Set Screw
42	TA-2970	Wing Screw
43	TA-0143	Bolt
44	TA-139	Nut
45	TB-11	Gasket
46	TC-4	Base, Aluminum
47	TA-35	Pin
48	TB-4	Cover, Aluminum
49	TA-20	Pin
50	TA-5906	Stuffing Box
51	TB-36	Gasket Buna-N 1/8"
53	TD-1	Housing, Aluminum
54**	TA-3230	O-Ring, Buna-N
55	TB-3	Thrust Rod
56	TA-143	Screw
57	TA-677	Outlet Body
58**	TA-391	Spring
59**	TA-54	Ball 3/8" 316SS
60**	TA-479	O-Ring Buna-N
	TA-2093	O-Ring Viton
61	TA-678	Inlet Body
62	TA-1296	Outlet Body
63	TA-1297	Inlet Body
64	TA-1574	Washer, 304SS
65	TB-271	Body
66	TA-1879	Valve
67**	TA-612	O-Ring-Buna-N
	TA-2184	O-Ring Viton
68**	TA-1959	O-Ring-Buna-N
	TA-3979	O-Ring Viton
69	TA-1880	Bushing
70	TA-0425	Lock Washer, Steel Cad. P1.

Use TA-2845 for Sour Gas

Use TA-2979 for Sour Gas

Use TB-770 for Sour Gas

Use TA-1256 for Sour Gas (304SS)

Use TA-3244 for Sour Gas CS Cad pl.

Use TA-1257 for Sour Gas (304SS)

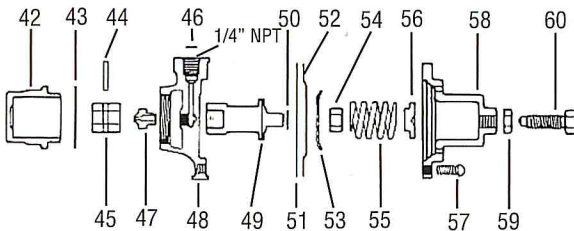
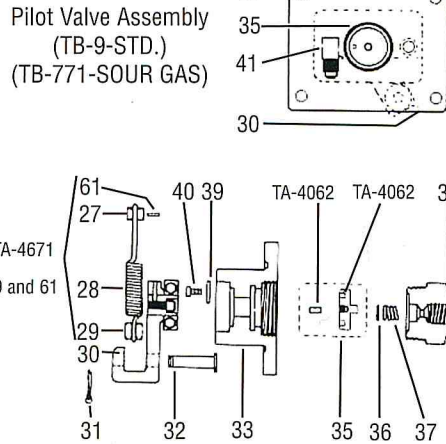
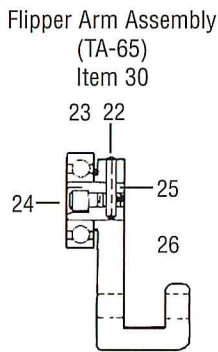
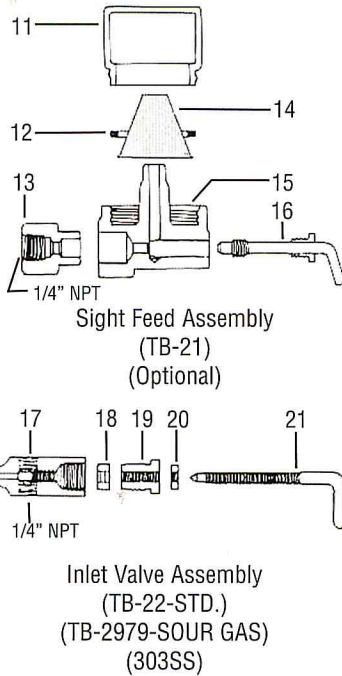
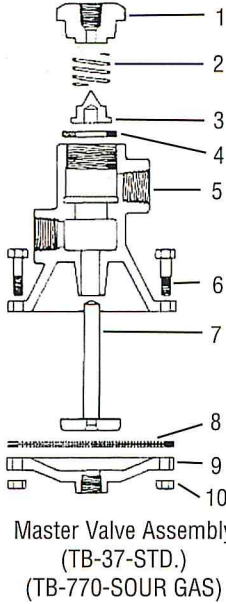
Use TB-771 for Sour Gas

See Item 19, page 8.

Use TA-2862 for Sour Gas (303SS)

*Furnished on all plungers except 1-1/4" Model 5007
**Recommended spare parts

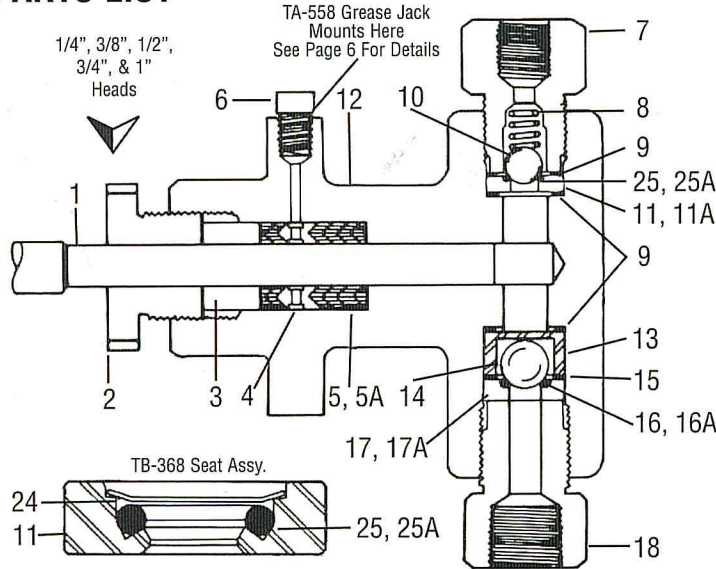
PARTS LIST



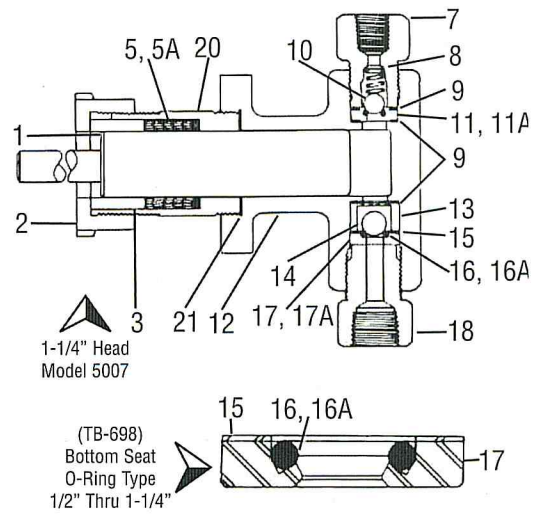
ITEM	PART NO.	NAME
1**	TA-200	Upper Valve Seat
2**	TA-202	Valve Spring
3**	TA-196	Valve Disc
4**	TA-201	Lower Valve Seat
5	TC-3	Housing, Aluminum
6	TA-163	Cap Bolt
7	TA-197	Stem Assembly
8**	TA-1329	Diaphragm
9	TA-1	Housing Cap
10	TA-164	Cap Nut
11**	TA-98	Bowl
12**	TA-104	Gasket
13	TA-866	Bushing
14	TA-206	Screen, 304SS-50 Mesh
15	TB-39	Body, Aluminum
16	TA-101	Shutoff Assembly
17	TA-10	Body
18**	TA-23	Packing
19	TA-11	Gland Nut
20	TA-195	Nut
21	TA-13	Valve Stem
22	TA-67	Lock Pin
23	TA-457	Bearing
24	TA-169	Socket Cap Screw
25	TA-815	Flipper Bearing Pin
26	TA-814	Flipper Arm
27**	TA-4601	Top Spring Bushing
28**	TA-4600	Flipper Spring
29**	TA-772	Bottom Spring Bushing
30	TA-65	Flipper Arm Assembly
31	TA-168	Cotter Pin
32	TA-170	Clevis Pin, Steel
33	TB-441	Body C.I.
35**	TA-4668	Valve Disc & Drive Pin Assy, SS
36**	TA-579	Washer 316SS
37**	TA-77	Spring, SS
38	TA-906	Disc Retainer Nut-CS Cad pl.
39	TA-167	Washer
40	TA-166	Cap Screw
41	TA-132	Elbow, Brass
42	TA-209	Cap
43	TA-212	Cap Gasket
44	TA-222	Seat Block Pin
45**	TA-214	Valve Seat Assembly
46	TA-519	Filter Screen
47	TA-219	Filter Screw
48	TC-29	Body, Brass
49	TA-208	Valve Seat Block Yoke
50	TA-213	Diaphragm Nut Gasket
51**	TA-210	Body Gasket
52**	TA-211	Diaphragm
53	TA-3135	Spring Plate
54	TA-220	Lock Nut
55	TA-3111	Spring
56	TA-3133	Spring Disc
57	TA-223	Body Screw
58	TA-3110	Bonnet, Brass
59	TA-402	Lock Nut
60	TA-217	Adjusting Screw
61	TA-20	Pin

** Recommended Spare Parts

PARTS LIST



INJECTOR HEADS



Item No.	Plunger Size/Model #	1/4" 5002		3/8" 5003		1/2" 5005		3/4" 5004		1" 5006		1 1/4" 5007		
		Ductile w/SS Trim	All Stainless Steel	Ductile w/SS Trim	All Stainless Steel	Ductile w/SS Trim	All Stainless Steel	Ductile w/SS Trim	All Stainless Steel	Ductile w/SS Trim	All Stainless Steel	Ductile w/SS Trim	All Stainless Steel	
Head Assembly														
1*	Plunger (Aralloy-17.4ph SS)	TA-2764	TA-2764	TA-743	TA-743	TA-32	TA-32	TA-2767	TA-2767	TA-158	TA-158	TA-408	TA-408	
2	Packing Gland Nut, C.S. Cad.	TA-2765	TA-2765	TA-944	TA-944	TA-55	TA-55	TA-2768	TA-2768	TA-47	TA-47	TA-403	TA-403	
3	Packing Gland 303 SS	TA-1463	TA-1463	TA-954	TA-954	TA-1219	TA-1219	TA-2769	TA-2769	TA-43	TA-43	TA-404	TA-404	
4	Lantern Ring 303 SS	TA-2766	TA-2766	TA-742	TA-742	TA-447	TA-447	TA-2770	TA-2770	TA-448	TA-448	Not Req'd.	Not Req'd.	
5*	Packing, Buna-N (3,000 Max.)	TA-1461	TA-1461	TA-1456	TA-1456	TA-959	TA-959	TA-2771	TA-2771	TA-50	TA-50	TA-405	TA-405	
6	Pipe Plug	TA-516	TA-516	TA-516	TA-516	TA-516	TA-516	TA-516	TA-516	TA-516	TA-516	Not Req'd.	Not Req'd.	
7	Top Bushing 303 SS	TA-152	TA-152	TA-152	TA-152	TA-152	TA-152	TA-152	TA-152	TA-152	TA-152	TA-152	TA-152	
8*	Check Ball Spring 316 SS	TA-77	TA-77	TA-77	TA-77	TA-77	TA-77	TA-77	TA-77	TA-77	TA-77	TA-77	TA-77	
9*	Gasket 304 SS (3 req'd.)	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	TA-2350	
10*	Top Check Ball 3/8" 316 SS	TA-54	TA-54	TA-54	TA-54	TA-54	TA-54	TA-54	TA-54	TA-54	TA-54	TA-54	TA-54	
11*	Top Check Valve Seat Assy. 303	TB-368	TB-368	TB-368	TB-368	TB-368	TB-368	TB-368	TB-368	TB-368	TB-368	TB-368	TB-368	
12	Pump Head	TC-1608	TC-1612	TC-84	TC-147	TC-22	TC-140	TC-333	TC-340	TC-20	TC-138	TC-49	TC-1982	
13	Ball Cage 17.4 ph SS	TA-444	TA-444	TA-444	TA-444	TA-444	TA-444	TA-444	TA-444	TA-444	TA-444	TA-444	TA-444	
14	Bottom Check Ball 316SS	TA-54-3/8"	TA-54-3/8"	TA-54-3/8"	TA-54-3/8"	TA-53-1/2"	TA-53-1/2"	TA-53-1/2"	TA-53-1/2"	TA-53-1/2"	TA-53-1/2"	TA-53-1/2"	TA-53-1/2"	
15	Gasket 304 SS	TA-2350	TA-2350	TA-2350	TA-2350	TA-2338	TA-2338	TA-2338	TA-2338	TA-2338	TA-2338	TA-2338	TA-2338	
16	O-Ring (Buna-N) Bottom Seat	TA-2097	TA-2097	TA-2097	TA-2097	TA-612	TA-612	TA-612	TA-612	TA-612	TA-612	TA-612	TA-612	
17	Bottom Check Valve Seat 303	TB-368	TB-368	TB-368	TB-368	TB-698	TB-698	TB-698	TB-698	TB-698	TB-698	TB-698	TB-698	
18	Bottom Bushing 303 SS	TA-153	TA-153	TA-153	TA-153	TA-153	TA-153	TA-153	TA-153	TA-153	TA-153	TA-153	TA-153	
19	Priming Valve (not shown)	TA-123	TA-123	TA-123	TA-123	TA-123	TA-123	TA-123	TA-123	TA-123	TA-123	TA-123	TA-123	
20	Adapter				Not Req'd.				Not Req'd.			TA-406	N/A	
21*	Gasket				Not Req'd.				Not Req'd.			TA-521	N/A	
24	Retainer Ring (included in Item 11)	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	TA-3523	
25	O-Ring (Buna-N) Top Seat (included in Item 11)	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	TA-2097	
Alternative Parts for Service														
5-A	Packing	Viton (3,000# Max.)	TA-4102	TA-4102	TA-4101	TA-4101	TA-4103	TA-4103	TA-4657	TA-4657	TA-4658	TA-4658	TA-4480	TA-4480
		Teflon (3,000# Max.)	TA-1642	TA-1642	TA-1530	TA-1530	TA-1531	TA-1531	TA-2988	TA-2988	TA-1013	TA-1013	TA-1014	TA-1014
		Hard* (3,000# Max. and above)	TA-2295	TA-2295	TA-1875	TA-1875	TA-1874	TA-1874	TA-2772	TA-2772	TA-4135	TA-4135	TA-4133	TA-4133
16-A	Viton O-Ring	TA-2336	TA-2336	TA-2336	TA-2336	TA-2184	TA-2184	TA-2184	TA-2184	TA-2184	TA-2184	TA-2184	TA-2184	
11-A**	Top Seat (metal to metal) 303	TA-157	TA-157	TA-157	TA-157	TA-157	TA-157	TA-157	TA-157	TA-157	TA-157	TA-157	TA-157	
17-A**	Bottom Seat (metal to metal) 303	TA-157	TA-157	TA-157	TA-157	TA-51	TA-51	TA-51	TA-51	TA-51	TA-51	TA-51	TA-51	
25-A	Viton O-Ring	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	TA-2336	

* Hard packing for 3000 psi and above service
 **Recommended Spare Parts



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Outside

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